
Prehospital Pediatric Care

**Pediatric
Shock**

Pretest

1. Which of the following best defines shock?
 - a. Inadequate tissue perfusion
 - b. Lack of oxygen causing low blood pressure and rapid heart rate
 - c. Organ failure due to acidosis
 - d. Loss of blood or body fluid resulting in decreased blood pressure
2. Which of the following factors predisposes children to hypovolemic shock?
 - a. An immature immune system
 - b. The physiologic response of the pediatric heart to hypoxemia
 - c. An immature central nervous system
 - d. The large proportion of water to total body weight
3. A child who weighs 10 lbs would be estimated to have how much blood volume?
 - a. 86cc
 - b. 150cc
 - c. 360cc
 - d. 1000cc
4. Using the 1-5-10 rule, a 7 year old child would weigh how many kilograms?
 - a. 14 kilograms
 - b. 25 kilograms
 - c. 50 kilograms
 - d. 3.5 kilograms
5. The cardiac arrhythmia most often seen in children with fever, pain, and early hypovolemia is?
 - a. Tachycardia
 - b. Bradycardia
 - c. PVC's
 - d. Children have healthy hearts and do not respond with any arrhythmia
6. The largest amount of water is located in which fluid compartment?
 - a. Intracellular
 - b. Interstitial
 - c. Vascular
 - d. Distributive
7. Fever, tachypnea, vomiting and diarrhea result in fluid being lost from which compartment?
 - a. Intracellular
 - b. Interstitial
 - c. Vascular
 - d. Distributive

8. Which of the following is considered the most significant pre-arrest condition in a pediatric patient?
 - a. Decreased level of consciousness
 - b. Tachycardia
 - c. Bradycardia
 - d. Hypotension
9. Which of the following types of shock is the most common form seen in children?
 - a. Cardiogenic
 - b. Septic
 - c. Hypovolemic
 - d. Hypoglycemic
10. Hypovolemic shock resulting from intracellular fluid loss commonly occurs due to?
 - a. Hemorrhage
 - b. Spinal cord damage
 - c. Endotoxins from certain bacteria
 - d. Vomiting and diarrhea; burns
11. The pathophysiological condition which is the end result of all forms of shock and leads to death is?
 - a. Hypoxia
 - b. Acidosis
 - c. Hypotension
 - d. Oliguria
12. Hypoxemia is best defined as?
 - a. Decreased or deficient breathing
 - b. Inadequate supply of oxygen in the cells
 - c. Deficiency of oxygen in the arterial blood
 - d. Oxygen deficit metabolism
13. All of the following statements regarding acidosis are true except?
 - a. Acidosis is best treated by the administration of whole blood
 - b. Acidosis is not consistent with life
 - c. Acidosis occurs as a result of anaerobic metabolism
 - d. Oxygenation and ventilation may help correct acidosis
14. Signs and symptoms of septic shock occur due to?
 - a. Decreased vascular resistance and cardiac depression due to endotoxins
 - b. Decreased functioning of the kidneys and brain due to cellular inflammation
 - c. Sympathetic responses stimulated by the invading bacteria
 - d. An increase in intracellular fluid levels leading to hypertension and pulmonary edema

15. All of the following cause cardiogenic shock in children except?
 - a. Trauma
 - b. Drug ingestion
 - c. Hypothermia
 - d. Myocardial infarction
16. Neurogenic shock signs and symptoms occur due to?
 - a. Decreased vascular resistance
 - b. Increased cardiac output
 - c. Loss of intracellular fluid
 - d. Decreased cardiac output
17. Which of the following statements is TRUE regarding shock in head injured children?
 - a. Shocky, head injured children may be assumed to have neurogenic shock if they have no extremity fractures
 - b. Shock in head injured children can be due to intracranial bleeding if the patient is less than 12 to 14 months of age
 - c. Isolated head injuries commonly exhibit signs of shock
 - d. Shock in the head injured child is often caused by intracranial bleeding
18. Which of the following statements is not correct regarding the etiology of CHD?
 - a. It can be caused by maternal alcoholism
 - b. The exact cause is not known
 - c. It can be caused by maternal smoking
 - d. It can be caused by maternal rubella
19. Which of the following is not a correct description of the signs and symptoms of congestive heart failure?
 - a. Orthopnea and wheezing
 - b. Chronic bradycardia and hypertension
 - c. Tachycardia during sleep; fatigue
 - d. Peripheral edema
20. The primary goal in the assessment of a shocky patient is?
 - a. To determine the etiology of the shock
 - b. To decide if the late stages of shock are present
 - c. To recognize the presence of shock and prevent deterioration
 - d. To recognize the need for oxygen and IV fluid therapy
21. Which of the following is NOT true regarding the compensation mechanism of children?
 - a. Children have poor ability to compensate
 - b. Children rapidly deteriorate once past compensation
 - c. Children have a great ability to compensate
 - d. Children are difficult to resuscitate once compensation is lost

22. Which of the following is NOT true regarding the early signs and symptoms of shock?
- a. Tachypnea is a compensatory mechanism and a positive sign
 - b. Tachypnea utilizes energy and will result in respiratory failure
 - c. Tachycardia may be the only early sign of shock
 - d. Tachycardia of 220 or higher is considered lethal in all children
23. When tachycardia changes to bradycardia, you should consider this?
- a. A sign of improvement
 - b. A sign that the child's compensatory mechanism is handling the insult
 - c. Proof that oxygen therapy is helping the problem
 - d. A sign of impending danger
24. Which of the following is NOT an indicator of late shock?
- a. Capillary refill > 5 seconds
 - b. Lethargy
 - c. Tachycardia
 - d. Hypotension
25. Which of the following would NOT be an appropriate history question in the assessment of a shocky child?
- a. Has the child had a nap today
 - b. Has the child had a fever
 - c. How many wet diapers has the baby had in the last 6-8 hours
 - d. Has anything unusual happened to the child in the last 24 hours
26. When late signs of shock are evident in a patient you should?
- a. Immediately request an IV
 - b. Initiate transport
 - c. Begin bag/valve/mask assisted ventilation with 100% oxygen
 - d. Not be overly concerned since children compensate well
27. If signs of shock are present but the cause is unknown, you should?
- a. Treat for hypovolemia
 - b. Do nothing; you may cause harm
 - c. Treat for cardiogenic shock
 - d. Repeat the patient history to see if you missed something
28. Which of the following methods of opening the airway is NOT recommended for pediatric patients?
- a. Oropharyngeal airway
 - b. Jaw/thrust
 - c. Hyperextension of head
 - d. Towel under the neck

29. Pediatric patients who exhibit signs of shock should?
- Receive IV fluids of normal saline
 - Be transported by helicopter
 - Receive 100% oxygen
 - Be placed in MAST trousers with legs inflated
30. A common complication of both bag/valve/mask and endotracheal intubation is?
- Acid/base imbalance
 - Insufficient inflation of both lungs
 - Gastric distention
 - Hyperventilation
31. Which heart rate is considered the rate at which CPR should be considered/initiated in pediatric patients 2-5 years of age?
- 100 beats per minute
 - 70 beats per minute
 - 60 beats per minute
 - 50 beats per minute
32. You have a shocky 4 year old child (18kg) who has bilateral fractured femurs a blood pressure of 56/40 and pulse of 176. How much fluid should your first bolus of LR contain?
- 360 cc's
 - 500 cc's
 - 1200 cc's
 - No fluid bolus is indicated; vital signs are normal for a 4 year old
33. The level of blood sugar at which glucose administration should be considered for children over 1 year of age is?
- 100 to 120%
 - 80%
 - 40-60%
 - 10-20%
38. Your patient is an 8 month old child who was dropped and is shocky. The hospital has ordered you to give a fluid bolus after starting an IV. The baby sitter states the infant weighs approximately 22 pounds. How many cc's of LR will you give?
- 50 cc's
 - 100 cc's
 - 150 cc's
 - 200 cc's

34. Your patient is a 6 year old who has been hit by a car while riding his bicycle. Which of the following vital signs is your primary indicator of his state of shock?
- That he is unconscious
 - That his respiratory rate is 40
 - That his pulse is 70
 - That his blood pressure is 82/50
35. Why are a volume chamber, stopcock and syringe used in the infusion of fluids for pediatric patients?
- To prevent excess pressure on tiny veins and infiltration
 - To prevent air emboli
 - To administer fluid rapidly in an accurate amount
 - To have IV routes available if medications are required
36. Which of the following is true regarding the direction in which the handle or lever of a stopcock is pointing?
- The fluid will infuse in that direction
 - The fluid will not infuse in that direction
 - The lever should point towards the syringe at all times
 - The fluid will infuse directly opposite the direction of the lever
37. The major complication of IV therapy is?
- Pain
 - Emboli
 - Fluid overload
 - Infiltration
38. Which of the following is the formula which guides the volume of fluid administration?
- 20cc/kg
 - 80cc/kg
 - 2cc/kg
 - 25cc/kg
39. Intraosseous infusion is approved for which age of children?
- 6 – 12 years
 - Less than 3 years old
 - 12 months to 4 years
 - 6 years and younger
40. Which of the following is a contraindication for IO cannulation?
- Abdominal injuries
 - Fractures or burns to lower legs
 - Head Injury
 - There are no contraindications if the situation is critical